Comments Provided to DPS on

Proposed Amendments to IgCC Chapters 10—11 and Appendices

William McNamara
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Chapter 10 - Existing Buildings

Chapter 10 – Existing Buildings 1001.1 Scope. The provisions of this chapter shall control the alteration, repair, addition, maintenance and operation and change of occupancy of existing buildings and structures. Relocated existing buildings shall comply with Chapter 10. Existing building sites shall comply with Chapter 11.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: It is covered in FOREWORD on page #2

1001.2 Building operation and maintenance. Previously commissioned buildings and parts thereof, shall be operated and maintained in conformance to the code edition applicable at the time of construction. The owner shall be responsible for the operation and maintenance of existing buildings. The requirements of this chapter shall not provide the basis for removal or abrogation of fire protection and safety systems and devices in existing structures.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

1001.3 Compliance. Alterations, repairs, additions and changes of occupancy to existing structures shall comply with the provisions of this chapter. Exception: Where a tenant in a multi-tenant building does not have control within that tenant space of a complete system or item, compliance for that complete system or item shall not be required.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

1001.4 Existing materials, assemblies, configurations and systems. Materials, assemblies, configurations and systems already in use that conform to requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined by the code official to be dangerous to life, health or safety. Where such conditions are determined to be dangerous to the environment, life, health or safety, they shall be mitigated or made safe.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

1002.1 General. Additions to any site-built building or structure shall comply with the requirements of this code for new construction. Any addition to a modular building that is relocated within or into a jurisdiction that is in compliance with requirements or approvals in effect at the time of its construction shall comply with Section 1002 of this code.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 2.1.a.3

1003.1 General. Alterations to existing buildings and building systems shall be in accordance with the provisions of this code for those assemblies, systems and components being altered. Unaltered portions, components and systems of the building, including relocated modular buildings, shall be in accordance with the provisions of the code in force at the time of their construction. Alterations shall not be made to an existing building or structure that will cause the existing building or structure to be in violation of any provisions of this code.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 2.1.a.3

1003.2 Requirements for alterations. Alterations of portions or components of buildings shall comply with Sections 1003.2.1 through 1003.2.7. Exceptions: 1. The total cost of improvements required by Sections 1003.2.1 through 1003.2.7 shall not be required to exceed 10 percent of the costs of the alterations exclusive of land and building site improvements. 2. This section shall not require compliance that exceeds that required for systems regulated by Chapters 6 through 8 of this code. 3. Materials, assemblies and components regulated by Sections 1003.2.1 through 1003.2.7 that are dependent upon properties of other concealed materials, assemblies or system components to function properly and where the properties of the concealed materials, assemblies or components are unknown or insufficient and will not be revealed during construction. 4. Alterations are not required to comply with the requirements of Sections 1003.2.1 through 1003.2.7 where the code official determines the alterations to be infeasible based upon the existing configuration of spaces, unless those spaces or portions

thereof will be reconfigured as part of the alteration project. 5. Where a tenant in a multi-tenant building does not have control within that tenant space of a complete system or item, compliance for that complete system or item shall not be required. 6. Where the total cost of the alteration to the existing building is less than the percent of the value of the building as indicated in Table 1003.2, compliance with Section 1003.2 shall not be required. The percent value of the building shall be determined by the original construction cost plus completed improvement costs of the building.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

1003.2.1 Metering devices. Dedicated individual utility or private metering devices that measure and verify energy and water use within the building or space shall be provided for at least one of the following: 1. Electrical energy consumption for individual tenant spaces. 2. Water consumption for individual tenant spaces. 3. Natural gas or fuel oil consumption for individual tenant spaces. 4. Lighting loads. 5. Motor and drive loads. 6. Chiller part-load efficiency. 7. Cooling loads. 8. Economizer and heat recovery loads. 9. Boiler efficiencies. 10. Building process systems and equipment loads. 11. Water consumption for landscape irrigation.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 2.1

1003.2.2 Heating, ventilating and air-conditioning. Heating, ventilating and air-conditioning systems and equipment shall be in accordance with the following: 1. Time clock and automatic time switch controls that can turn systems off and on according to building occupancy requirements shall be provided and connected to the following HVAC equipment: chillers and other space-cooling equipment, chilled water pumps, boilers and other space-heating devices, hot water pumps, heat exchanger circulation pumps, supply fans, return fans, and exhaust fans. Where occupant override is provided, it shall be designed with a timer to automatically revert to time clock and automatic time switch controls in not longer than 12 hours. Exception: A time clock or automatic time switch controls shall not be required for spaces where any of the following conditions exist: 1. A time clock is not required by Section C403.2.4.3 of the International Energy Conservation Code. 2. There is 24-hour occupancy materials with special atmospheric requirements dependent on 24-hour space conditioning. 3. A majority of the areas of the building served by the system are under setback thermostat control. 4. Manufacturer's specifications stipulate that the system must not be shut off.

2. Functional outside air economizers shall be provided on all cooling systems of more than 4 1 2 tons total cooling capability, 54,000 Btu/h, or more than 1800 cfm (9.144 m 3 /s @ m 2 air flow, provided manufacturer's guidelines are available for adding the economizer to the existing system. Exception: An outside air economizer shall not be required for buildings or special uses where 100 percent outside air for ventilation is required or where any of the following conditions exist: 1. Section C403.3.1 of the International Energy Conservation Code would not require an economizer. 2. The existing system has a water-based economizer. 3. The existing system does not have an outside air intake. 4. Special economizer operations such as, but not limited to, carefully controlled humidity would require more energy use than is conserved. 5. There is insufficient space to install necessary equipment. 6. Installation of an economizer would require major modifications to the building's life safety system. 7. The existing system is a multi-zone system where the same intake air is used at the same time for either heating or cooling in different parts of the building. 3. HVAC piping and ducts, including those located above suspended ceilings, shall comply with Sections 606.3 and 606.4. Exception: Additional insulation shall not be required for piping where any of the following conditions exist: 1. Additional insulation shall not be required for piping where any of the following conditions exist: 1.1. It is located within HVAC equipment; 1.2. It is located within conditioned space that conveys fluids between 60°F (15.6°C) and 105°F (40.6°C); 1.3. Piping that is already insulated and the insulation is in good condition; or 2. Where HVAC ducts and piping are installed in a building cavity or interstitial framing space of insufficient width to accommodate the duct or pipe and the insulation required by Section 606.3 and Table 606.4, the insulation thickness shall be permitted to have the maximum thickness that the wall can accommodate, but shall not be less than 1 2 - inch (12.7 mm) thick. 4. Where central heat is intended to be replaced with individual electric space heaters, the application for the electrical permit shall include documentation demonstrating that the new electric heaters will not consume more energy than the existing nonelectric heaters. 5. Boiler systems shall have been cleaned and tuned within one year prior to the alteration. Boilers shall be equipped with an outdoor air lock-out thermostat or a temperature reset control. 6. Chillers shall be equipped with an outdoor air lock-out thermostat and chilled water reset control. 7. A maximum 5-year phase out plan shall be provided for buildings with existing systems that use CFC- based refrigerants. 8. Where mechanical and electrical systems and equipment are joined with microprocessors that communicate with each other or to a computer, a properly integrated building automation system shall be installed to optimize energy, operations, and indoor comfort. The building automation system shall: 8.1. Allow the owner to set up schedules of operation for the equipment and provide equipment optimal start with adaptive learning; 8.2. Provide trim and respond capabilities based on zone demand; 8.3. Offer the ability to monitor energy usage, including the ability to meter electric, gas, water, steam, hot water, chilled water, and fuel oil services; 8.4. Offer economizing based on enthalpy calculation and/or CO 2 set point control; 8.5. Offer load shedding when power companies are at peak demand and need; and 8.6. Offer the ability to send alarms to alert building owner, manager, or operator when problems occur due to system failures.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 2.1

1003.2.3 Service water systems. Service water systems and equipment shall be in accordance with the following: 1. Water heater and hot water storage tanks shall have a combined minimum total of external and internal insulation value of R-16. 2. Accessible hot and cold water supply and distribution pipes shall comply with Section 607.6. The insulation shall not be required to extend beyond the building thermal envelope. 3. Circulating pump systems for hot water supply purposes other than comfort heating shall be controlled as specified in Section 607.7. 4. Showerhead, toilet, urinal and faucet flow rates shall be in accordance with this code.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 2.1

1003.2.4 Lighting. Lighting systems and equipment shall be in accordance with sections C405.2.2.3 and C405.2.4 of the International Energy Conservation Code.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 2.1

1003.2.5 Swimming pools and spas. Swimming pools and spas and their equipment shall be in accordance with the following: 1. Heated swimming pools and spas shall be equipped with a cover listed and labeled in accordance with ASTM F 1346, or a liquid pool cover feed system, for unoccupied hours. Exception: A cover shall not be required for indoor pools or spas in which water temperature is less than 80°F (26.7°C) during time of nonuse. 2. Backwash systems shall be based on pressure drop and shall not be based on a timer. 3. Pool and spa recirculation pumps shall be under timeclock control. Exception: Filtration pumps where the public health standard requires 24-hour pump operation. 4. Heaters shall have been cleaned and tuned for efficiency within one year prior to the alteration. Where this has not been done, the heaters shall be cleaned and tuned as part of the alteration work.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

1003.2.6 Insulation of unconditioned attics. In buildings with three or fewer stories above grade plane, ceiling insulation with a minimum R-value as required by this code shall be installed in accessible attic spaces that are directly above conditioned spaces. For the purposes of this section, accessible attic space is the space between ceiling joists and roof rafters where the vertical clear height from the top of a ceiling joist or the bottom chord of a truss, to the underside of the roof sheathing at the roof ridge, is greater than 24 inches (610 mm). Where the required R-value insulation cannot fit in the attic space, the maximum amount of insulation compatible with available space and existing uses shall be installed.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

1003.2.7 Roof replacement insulation. For roof replacement on an existing building with insulation entirely above the deck and where the roof slope is less than two units vertical in 12 units horizontal (16-percent slope), the insulation shall conform to the energy conservation requirements for insulation entirely above deck in the International Energy Conservation Code. Exception: Where the required R-value cannot be provided due to thickness limitations presented by existing rooftop conditions, including heating, ventilating and air-conditioning equipment, low door or glazing heights, parapet heights, proper roof flashing heights, the maximum thickness of insulation compatible with the available space and existing uses shall be installed.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

1004.1 Change of occupancy. Where a change in occupancy of a building or tenant space places it in a different division of the same group of occupancy or in a different group of occupancies, as determined in accordance with the provisions of the International Building Code, compliance with Sections 1001.3 and 1001.4 shall be required. Exception: Historic buildings in accordance with Section 1005 shall not be required to comply with Section 1004.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

1005.1 Historic buildings. The provisions of this code relating to the construction, repair, alteration, addition, restoration and movement of structures, and change of occupancy, where each individual provision is evaluated separately on its own merit, shall not be mandatory for historic buildings for any of the following conditions: 1. Where implementation of such provisions would require a change in the visible configuration of building components in a manner that is not in keeping with the building's historic nature, as determined by the code official; or 2. Where compliance with such provisions would produce a conflict with a building function that is fundamental to the historic nature of the building.

PROPOSED ACTION: Delete

RATIONALE / IMPACT: Regulated by Chapter 24A Montgomery County Code, Historic Resources Preservation

2011 ASHRAE 189.1 CORRELATION:

1006.1 Deconstruction and demolition material and waste management plan. Where buildings, structures or portions thereof are deconstructed or demolished, a minimum of 50 percent of materials shall be diverted from landfills. A construction material and waste management plan shall be developed that is in accordance with Section 503.1, that includes procedures for deconstruction, and that documents the total materials in buildings, structures and portions thereof to be deconstructed or demolished and the materials to be diverted.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 9.3.1

1007 JURISDICTIONAL REQUIREMENTS

1007.1 General. Sections 1007.2 and 1007.3 shall be mandatory and enforced only where specifically indicated by the jurisdiction in Table 302.1. 1007.2 Evaluation and certification of existing buildings and building sites. Where a permit application is accepted by a jurisdiction for the evaluation of an existing building and building site in accordance with the requirements of this code as applicable to a new project, and this

code does not otherwise require compliance, evaluation shall be in accordance with the requirements of this section.

1007.2.1 Certificate of compliance. Where compliance with the requirements of this code as applicable to a new building is verified by the code official for an existing building and building site, a certificate shall be issued indicating compliance to this code, as modified by the limitations contained in Sections 1007.2.2 through 1007.2.3.2.
1007.2.2 Specific exclusions. Where evidence of compliance is not available, existing buildings evaluated under Section 1007.2 shall not be subject to the requirements of Section 806. Provisions of this code related to the project's construction phase, including Sections 401.2, 406.1, 406.2, 502, 503.1 and 803.1, those portions of Section 405 related to the construction phase, and other sections as approved by the code official, shall not be required for buildings evaluated under Section 1007.2. Where buildings do not comply with the aforementioned sections, the certification shall specifically list the sections for which compliance has not been required or verified.
1007.2.3 Existing concealed construction. Existing concealed construction in buildings regulated by Section 1007.2 shall be in accordance with Sections 1007.2.3.1 and 1007.2.3.2.

1007.2.3.1 Previously approved documents. Previously approved construction documents for the initial construction of an existing building and, where possible, description of changing uses and major upgrades over the building's lifetime for which a certificate of occupancy was previously issued shall be deemed an acceptable indication of materials, assemblies and equipment in concealed spaces, except where field inspection reveals sufficient evidence suggesting non-compliance, subject to the evaluation of the code official.

1007.2.3.2 Previously approved documents not available. Where previously approved construction documents for the initial construction of an existing project are not available, materials, assemblies and equipment in spaces in existing buildings and existing portions thereof that are concealed, including, but not limited to, materials in spaces within walls and floor/ ceiling assemblies, shall be exposed and spot checked in limited areas as determined by the code official.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice, however may be somewhat confusing

2011 ASHRAE 189.1 CORRELATION: None

1007.3 Post certificate of occupancy zEPI, energy demand, and CO 2 e emissions reporting. Where the jurisdiction indicates in Table 302.1 that ongoing post certificate of occupancy zEPI, energy demand and CO 2 e emissions reporting is required, and where the jurisdiction has indicated in Table 302.1 that enhanced energy performance

in accordance with Section 302.1 or CO 2 e emissions in accordance with Section 602.2 are required, zEPI, energy demand, and CO 2 e emissions reporting shall be provided in accordance with this section.

1007.3.1 Purpose. The purpose of this section is to provide for the uniform reporting and display of the total annual net energy use, peak demand for each energy form and emissions associated with building operations and building sites.

1007.3.2 Intent. The intent of these requirements is to provide for the ongoing reporting and display of the total annual net energy use, peak energy demand and emissions associated with operation of the building and its systems to document ongoing compliance with the provisions of Sections 601 and 602. 1007.3.3 Reporting. Reports in accordance with Sections 1007.3.3.1 through 1007.3.3.3 shall be generated.

1007.3.3.1 Annual net energy use. The zEPI associated with the operation of the building and the buildings on the site, as determined in accordance with Section 602.1, shall be reported by the building owner or the owner's registered agent to the [INSERT NAME OF APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY RESPONSIBLE FOR COLLECTING REPORTED INFORMATION]. Where there are multiple buildings on a building site, each building shall have its zEPI reported separately. Where there are energy uses associated with the building site other than the buildings on the site, the zEPI for the building site shall be reported separately. Energy use for the previous year shall cover the complete calendar year and be reported on, or before, March 1st of the following year.

1007.3.3.2 Peak monthly energy demand reporting. The peak demand of all energy forms serving each building and the building site shall be reported by the building owner or the owner's registered agent to the [INSERT NAME OF APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY RESPONSIBLE FOR COLLECTING REPORTED INFORMATION]. Where there are multiple buildings on a building site, each building shall have its energy demand reported separately. Where there are energy uses associated with the building site other than the buildings on the site, the energy demand for the building site shall be reported separately. Monthly energy demand data for the previous year shall cover the complete calendar year and be reported on, or before, March 1st of the following year.

1007.3.3.3 Annual CO 2 e emissions reporting. The annual emissions associated with the operation of the building and its systems, as determined in accordance with Section 602.2, shall be reported by the building owner or the owner's registered agent to the [INSERT NAME OF APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY RESPONSIBLE FOR COLLECTING REPORTED INFORMATION]. Where there are multiple buildings on a building site, each building shall have its annual emissions reported separately. Where there are energy uses associated with the building site other than the buildings on the site, the annual CO 2 e emissions for the building site

shall be reported separately. Emissions reported for the previous year shall cover the complete calendar year and be reported on, or before, March 1st of the following year.

PROPOSED ACTION: Move to Appendix A - Adopt as written however note that 1007.3.3 requires DPS to identify government agency to collect reported information

RATIONALE / IMPACT: Good practice. May be impractical to implement for all projects

2011 ASHRAE 189.1 CORRELATION: 10.3.2.1.3.2

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Chapter 11 - Existing Building Site Development

Chapter 11 – Existing Building Site Development 1101.1 Scope. The provisions of this chapter shall control the alteration, repair, maintenance and operation of existing building sites and the alteration to building site improvements. Chapter 11 applies where building site improvements are being made, or where additions are made to, or changes of occupancy occur within, the existing buildings on the site.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: No action required

2011 ASHRAE 189.1 CORRELATION: None

1101.2 Operation and maintenance. Building sites shall be operated and maintained in conformance to the code edition under which the site improvements were installed. The owner or the owner's designated agent shall be responsible for the operation and maintenance of building sites. To determine compliance with this section, the code official shall have the authority to require a building site to be reinspected. The requirements of this chapter shall not provide the basis for removal or abrogation of protections or systems from existing building sites.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

1101.3 Compliance. Alterations and repairs to building sites shall comply with the provisions of this code unless provided otherwise in this chapter. Where differences occur between the provisions of this code and the provisions of other locally adopted land use, zoning or site development regulations, the provisions of the most restrictive code or regulation shall apply. 1101.4 Building site materials, systems and landscaping. Building materials used for building site development shall comply with the requirements of this section.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

1104.4.1 Existing materials, assemblies, configurations and systems. Materials and systems already in use on a building site in compliance with the requirements or approvals in effect at the time of their installation shall be permitted to remain in use unless determined by the code official to be dangerous to the environment, life, health

or safety. Where such conditions are determined to be dangerous to the environment, life, health or safety, they shall be mitigated or made safe. Existing buildings and site improvements located within or located closer to protected areas than permitted by Section 402.1 but that are in compliance with the requirements or approvals in effect at the time of their installation shall be permitted to remain in use unless determined by the code official to be dangerous to the environment, life, health and safety of the community and the occupants of the building site. Where such conditions are determined to be dangerous to the environment, life, health or safety, they shall be mitigated or made safe.

PROPOSED ACTION: Adopt with following modification: Revise 1104.4.1 to read 1101.4.1

RATIONALE / IMPACT: Correct typo

2011 ASHRAE 189.1 CORRELATION: None

1101.4.2 New and replacement materials, assemblies, configurations and systems. Except as otherwise required or permitted by this code, materials, assemblies, configurations and systems permitted by the applicable code for new construction shall be used. Like materials shall be permitted for repairs and alterations provided no hazard to the environment, life, health or property is created. Hazardous materials shall not be used where the code for new construction would not permit their use at building sites of similar occupancy, purpose and location.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

1102.1 General. Additions to any building site improvements shall comply with the requirements of this code for new construction. Unaltered portions of a building site shall be in accordance with the provisions of the code in force at the time of their construction. Where additions to a building, or additions to building site improvements result in the alteration of existing portions or improvements of the building site, those alterations shall comply with this section and Section 1103. Additions to an existing building site shall be made to ensure the following: 1. Existing building site improvements together with the additional or expanded improvements are not less conforming to the provisions of this code than the existing building site was prior to the addition; and 2. Where additions to any building reduces, or requires alteration to, building site improvements, the alterations to the building site together with unaltered site improvements shall not be less conforming to the provisions of this code prior to the addition to the building or structure.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

1103.1 General. Alterations to existing portions or site improvements on building sites shall be in accordance with the provisions of this code for those portions or building site improvements being altered. Unaltered portions and site improvements of the building site shall be in accordance with the provisions of the code in force at the time of their construction. Alterations shall be such that the existing building site is no less conforming to the provisions of this code than the existing building site was prior to the alteration. Unaltered portions and site improvements of a building site shall be in accordance with the provisions of the code in force at the time of their construction or preservation. Exception: Where, in the opinion of the code official, there is no significant compromise of the intent of this code, the code official shall have the authority to approve materials and assemblies that perform in a manner that is at least the equivalent of those being replaced.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

1103.2 Changes to hardscapes and surface vehicle parking. Where existing hardscapes are altered, the alterations shall comply with the provisions of this code. Exceptions: 1. Existing hardscapes and vegetation are permitted to be replaced with materials shown in previously approved construction documents. 2. Where existing vehicle surface parking lots are altered without changing parking space configuration or increasing the number of parking spaces, the altered parking lot shall not be required to comply with Section 407.4.

PROPOSED ACTION: Adopt as written,

RATIONALE / IMPACT: May be in conflict with MDE and DPS (storm water management) regulations

2011 ASHRAE 189.1 CORRELATION: 5.4.1.1

1104.1 Conformance. Where a change in the use or occupancy of a building or tenant space places it in a different division of the same group or occupancy or in a different group of occupancies, as determined in accordance with the provisions of the

International Building Code, compliance with Section 1104.2 shall be required. Altered portions of, and additions to, existing buildings and existing building sites that are not a result of change of occupancy requirements, shall comply with Chapter 10 and this chapter. 1104.2 Building site improvements. Where a change in occupancy results in an increase in the occupant load of the building, bicycle parking shall comply with the following: 1. Short-term bicycle parking spaces shall be provided in accordance with Section 407.3 equivalent to a new building of the new occupancy. 2. Where the existing building and building site have parking for motorized vehicles, long-term bicycle parking shall be provided in accordance with Section 407.3 equivalent to a new building of the new occupancy. Where the existing building does not contain covered parking spaces for vehicles, only 25 percent of the long-term bicycle parking needs to be covered.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 5.4.1.1;

1105.1 Historic building sites. The provisions of this code relating to the construction, repair, alteration, addition and restoration of building sites and site improvements, where each individual provision is evaluated separately on its own merit, shall not be mandatory for historic building sites for any of the following conditions: 1. Where implementation of that provision would change the visible configuration of building site improvements in a manner that is not in keeping with the building site's historic nature, as determined by the code official, in consultation with the authority having jurisdiction over historic buildings or sites; 2. Where compliance with that provision would produce a conflict with a building site function that is fundamental to the historic nature of the building site, as determined by the code official, in consultation with the authority having jurisdiction over historic buildings or sites; or 3. Where such building sites are judged by the code official in consultation with the authority having jurisdiction over historic buildings or sites to not constitute a distinct environmental hazard.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Current practice

2011 ASHRAE 189.1 CORRELATION: None

Comments Provided to DPS on

Proposed Amendments to IgCC Chapters 12

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Chapter 12 - Referenced Standards

Appendix A – Project Electives SECTION A101 GENERAL A101.1 Scope. The provisions of this appendix are designed to offer conservation practices that achieve greater benefit than the minimum requirements of the International Green Construction Code™ (IgCC™). A101.2 Intent. This appendix shall provide a basis by which a jurisdiction can implement measures to increase natural resource conservation, material resource conservation, energy conservation, water conservation and environmental comfort and mitigate impacts of building site development.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: No action required

2011 ASHRAE 189.1 CORRELATION: None

SECTION A102 APPLICABILITY AND CONFORMANCE A102.1 General. Project electives shall be applicable to building, structures and building sites constructed under the provisions of this code. A102.2 Required number of and selection of project electives. The jurisdiction shall indicate the number of project electives required in the blank provided in the row that references Section A102.2 in Tables A104, A105, A106, A107 and A108. Each project constructed in the jurisdiction shall be required to comply with this number of project electives. A total of not less than this number of project electives shall be selected by the owner from each table. Selected project electives shall be applied as mandatory requirements for the project. Selected project electives shall be communicated to the code official by means of checking the appropriate boxes in the tables and providing a copy of the tables, or by inclusion of a list of selected project electives, with the construction documents.

PROPOSED ACTION: DGS recommends that DPS require 20% of the total number of electives be attained for Tables A104, A105 and A106; 0% for Table A107; and 30% for Table A108.

RATIONALE / IMPACT: None of the electives listed in Table A107 are readily achievable given the current state of water resource technology. In addition, several electives are regulated by other AHJ's, therefore identifying a minimum number of electives in this category is premature.

2011 ASHRAE 189.1 CORRELATION: None

SECTION A103 DEFINITIONS A103.1 Definitions. The following words and terms shall, for the purposes of this appendix, have the meanings shown herein. Refer to Chapter 2 of this code for general definitions. DESIGN LIFE. The intended service life or the period of time that a building or its component parts are expected to meet or exceed the performance requirements. GEOTHERMAL ENERGY. Renewable energy generated

from the interior of the Earth and used to produce energy for heating buildings or serving building commercial or industrial processes. PROJECT ELECTIVE. The minimum total number of project electives that must be selected and complied with as indicated in Section A102.2 and Tables A104, A105, A106, A107 and A108. SERVICE LIFE. The period of time after installation during which a building or its component parts meets or exceeds the performance requirements. VOCs, TOTAL (TVOCs). Sum of the concentrations of all identified and unidentified volatile organic compounds between and including n-hexane through n-hexadecane (i.e., C 6 C 16 as measured by gas chromatography/mass spectrometry total ion-current chromatogram method and are quantified by converting the total area of the chromatogram in that analytical window to toluene equivalents.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: No action required

2011 ASHRAE 189.1 CORRELATION: None

SECTION A104 SITE PROJECT ELECTIVES

A104.1 Flood hazard area project elective. Where Section 402.2.1 is not listed in Table 302.1 as a mandatory requirement, and in specific flood hazard areas if Section 402.2.2 is not a mandatory requirement, projects seeking flood hazard area project electives in accordance with Section A102.2 shall comply with one of the project electives identified in Sections A104.1.1 through A104.1.3.

A104.1.1 Flood hazard area preservation. Where less than 25 percent of a building site is located within a flood hazard area, buildings and building site improvements shall be located on portions of the building site that are located outside of the flood hazard area. The building site shall not be filled or regraded to raise the elevation of the site to remove areas from the flood hazard area.

A104.1.2 Flood hazard area minimization. Where 25 percent or more of a building site is located within a flood hazard area, the lowest floors of buildings that are located within the flood hazard area shall be not less than 1 foot (305 mm) above the design flood elevation as established by the International Building Code, or not less than the height, as established by the jurisdiction, above the design flood elevation, whichever is higher. The placement of fill on a building site shall not be used to achieve the required height above the design flood elevation.

A104.1.3 Flood hazard area, existing building. Where additions, alterations, or repairs are made to an existing building located in a flood hazard area, and the cost of the work equals or exceeds 40 percent of the market value of the structure before the improvement or repair is started, the entire building shall be brought into compliance

with the flood-resistant construction requirements in the Inter- national Building Code for new buildings and structures.

PROPOSED ACTION: Delete

RATIONALE / IMPACT: Regulated by FEMA, MDE and DPS

2011 ASHRAE 189.1 CORRELATION: 5.3.1.2

A104.2 Wildlife corridor project elective. Site development that restores a wildlife corridor, connecting wildlife corridors on adjacent lots, shall be recognized as a project elective.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 5.3.1.2

A104.3 Infill site project elective. The development of a building site that is an infill site with a new building and associated site improvements shall be recognized as a project elective.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

A104.4 Brownfield site project elective. The development of a building site that is a brownfield site with a new building with associated site improvements shall be recognized as a project elective. The development shall be in accordance with the following:

Phase I and II Environmental Assessment and, as necessary, the documentation of the site remediation plan and completion of the plan, as approved by the jurisdictional agency in charge of environmental regulations. 2. Where contamination levels are above risk-based standards for intended reuse and remediation is required, building and site development shall provide effective remediation approved by the local, state or federal government agency which classified the site as a brown- field, by one of the following:

2.1. The effective remediation is completed in the manner described in the remediation plan approved by the agency which classified the site as a brownfield.

2.2. A remediation commensurate with the initial approved plan which the agency approves upon completion by issuing a letter stating that no further remediation action is required.

3. The brownfield site project elective fully accomplishes the applicable state and local brownfields program cleanup goals, with all supporting documentation as required by the state, tribal or other responsible authority.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: Chapter 5

A104.5 Site restoration project elective. Previously developed sites that restore 25 percent or more of the nonbuilding footprint building site area with native or adaptive vegetation shall be recognized as a project elective.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

A104.6 Mixed-use development project elective. Development of a mixed-use building shall be recognized as a project elective. The building shall be in accordance with all of the following:

1. It shall have not less than two stories.

2. Eight or more dwelling units of Group R-1 or R-2 occupancy shall be located above the first story.

3. The first story shall contain one or more of the following occupancies: A-1, A-2, A-3, B, M, Group E daycare, or Group R-2 live/work units.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

Chapter 12 - Referenced Standards

A104.7 Changing and shower facilities project elective. Where a new building is less than 10,000 square feet (929 m 2 in total building floor area, providing changing and shower facilities in accordance with Section 407.2 shall be recognized as a project elective. A104.8 Long-term bicycle parking and storage project

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

A104.8 Long-term bicycle parking and storage project elective. The development of a new building and associated site improvements where additional long-term bicycle parking is provided in accordance with all of the following shall be recognized as a single project elective:

1. Provide long-term bicycle parking that is twice the number of parking spaces required by Table 407.3;

2. Provide spaces in accordance with Section 407.3.2; and

3. Locate not less than 90 percent of long-term bicycle parking within a building or provide the parking with a permanent cover including, but not limited to, roof overhangs, awnings, or bicycle storage lockers.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 10.3.2.4.1

A104.9 Heat island. Project electives related to heat island impact shall comply with Sections

A104.9.1 through A104.9.4. Compliance with multiple electives shall be recognized.

A104.9.1 Site hardscape project elective 1. In climate zones 1 through 6, as established in the International Energy Conservation Code, the development of a new building and associated site improvements where a mini- mum of 75 percent of the site hardscape is in accordance with one or any combination of options in Sections 408.2.1 through 408.2.4, shall be recognized as a project elective.

A104.9.2 Site hardscape project elective 2. In climate zones 1 through 6, as established in the International Energy Conservation Code, the development of a new building and

associated site improvements where a mini- mum of 100 percent of the site hardscape is in accordance with one or any combination of options in Sections 408.2.1 through 408.2.4, shall be recognized as a project elective.

A104.9.3 Site hardscape project elective 3. In climate zones 7 and 8, as established in the International Energy Conservation Code, the development of a new building and associated site improvements where a minimum of 50 percent of the site hardscape is in accordance with one or any combination of options in Sections 408.2.1 through 408.2.4, shall be recognized as a project elective.

A104.9.4 Roof covering project elective. In climate zones 4 through 8, as established in the International Energy Conservation Code, the development of a new building with roof coverings in accordance with Section 408.3,

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 5.3.2

SECTION A105 MATERIAL RESOURCE CONSERVATION AND EFFICIENCY

A105.1 Waste management project elective. Projects seeking a waste management project elective shall comply with Section 503.1, except that the nonhazardous construction waste materials required to be diverted from landfills shall be increased by 20 percent. Where another percentage is indicated by the jurisdiction in Table 302.1, projects seeking this credit shall increase diversion by 20 percent above the percentage indicated in Table 302.1.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 9.3.1

A105.2 Construction waste landfill maximum project elective. Projects seeking a construction waste landfill maximum project elective in accordance with Table A105 and Section A102.2 shall comply with Section 503.1 except that not more than 4 pounds (1.814 kg) of construction waste, excluding hardscape, per square foot (0.0929 m 2 of building area shall be disposed of in a landfill. Building construction waste and hardscape waste shall be measured separately.

PROPOSED ACTION: Adopt as written

William McNamara
MCG DGS DBDC

Chapter 12 - Referenced Standards

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 9.3.1.1

A105.3 Material selection project electives. Each of the following shall be considered a separate material selection project elective. The project electives are cumulative and compliance with each item shall be recognized individually.
Compliance with this project elective shall require compliance with Section 505.2, except that buildings and structures shall contain used, recycled content, recyclable, bio-based and indigenous materials that comply with Sections 505.1 through 505.2.5 such that the aggregate total materials compliant with those sections constitute at least 70 percent of the total building products and materials used, based on mass, volume or cost, used singularly or in combination.
Compliance with Item 1 except that such materials shall be used for at least 85 percent of the total mass, volume or cost of materials in the project.

PROPOSED ACTION: Adopt with the following modification: Compliance with this project elective shall require compliance with Section 505.2, except that buildings and structures shall contain used, recycled content, recyclable, bio-based and/or indigenous materials that comply with Sections 505.1 through 505.2.5 such that the aggregate total materials compliant with those sections constitute at least 70 percent of the total building products and materials used, based on mass, volume or cost, used singularly or in combination.

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 9.4.1

A105.4 Building service life plan project electives. Projects seeking a building service life plan project elective shall com- ply with this section. The building service life plan (BSLP) in accordance with Section A105.4.1 shall be included in the construction documents.

A105.4.1 Plan and components. The building service life plan (BSLP) shall indicate the intended length in years of the design service life for the building as determined by the building owner or registered design professional, and shall include a maintenance, repair, and replacement schedule for each of the following components. The maintenance, repair and replacement schedule shall be based on manufacturer's reference service life data or other approved sources for the building components. The manufacturer's reference service life data or data from other approved sources shall be included in the documentation. Structural elements and concealed materials and assemblies. Materials and assemblies where replacement is cost prohibitive or impractical. Major materials and assemblies that are replaceable. Roof coverings. Mechanical, electrical and plumbing equipment and systems. Site hardscape.

Chapter 12 - Referenced Standards

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 10.3.2.3

A105.5 Design for deconstruction and building reuse project elective. Projects seeking a design for deconstruction and building reuse project elective shall be designed for deconstruction of not less than 90 percent of the total components, assemblies, or modules to allow essentially the entire building to be reused. Design for deconstruction shall be documented on the building's plans and construction documents.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None A105.6 Existing building reuse project elective. The development of a building site on which an existing building is already located and in which not less than 75 percent of the existing core and shell of the structure will be reused shall be recognized as a project elective.

PROPOSED ACTION: Modify to incorporate a sliding scale based on size of structure to be retained. Renumber to "A1010.x" to correspond with Chapter 10 Existing Buildings.

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

A105.7 Historic building reuse project elective. The development of a building site on which an existing building is already located and in which not less than 75 percent of the existing core and shell of a locally or nationally designated historic structure will be reused shall be recognized as a project elective.

PROPOSED ACTION: Modify to incorporate a sliding scale based on size of structure to be retained. Renumber to "A1011.x" to correspond with Chapter 11 Historic Buildings.

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

SECTION A106 ENERGY CONSERVATION, EFFICIENCY AND EARTH ATMOSPHERIC QUALITY A106.1 zEPI reduction project electives. Project electives for

buildings pursuing performance-based compliance in accordance with Section 601.3.1 shall be in accordance with the portions of Table A106 that reference Section A106.1, Equation 6-1 and the calculation procedures specified in Section 602.1.2.1.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 7.4 and 7.5.3

A106.2 Mechanical systems project elective. Buildings seeking a mechanical systems project elective in accordance with Sections A102.2 and A106 shall comply with Sections A106.2.1 through A106.2.5. A106.2.1 Prescriptive path. The building shall be designed prescriptively in accordance with Section 601.3.2.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 7.4.3

A106.2.2 Mechanical equipment. Mechanical equipment shall comply with Sections A106.2.2.1 through A106.2.2.4 to achieve the mechanical systems project elective. A106.2.2.1 Heating equipment. For heating equipment, the part-load efficiency of the equipment shall be not less than 10 percent greater than the part-load efficiencies shown in the applicable tables of the International Energy Conservation Code, or ASHRAE 90.1, or the equipment shall be ENERGY STAR qualified, as applicable. A106.2.2.2 Cooling equipment. For cooling equipment, the part-load efficiency of the equipment shall be not less than 10 percent greater than the part-load efficiencies shown in the applicable tables of the International Energy Conservation Code, or ASHRAE 90.1, or the equipment shall be ENERGY STAR qualified. A106.2.2.3 Ground source heat pumps. Ground source heat pumps shall meet the provisions of Table A106.2.2.3 based on the applicable referenced test procedure. A106.2.2.4 Multi-stage ground source heat pumps. The efficiency of multi-stage ground source heat pumps shall meet the provisions of Table A106.2.2.3 based on the applicable referenced test procedure. TABLE A106.2.2.3

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 7.4.7.3

Chapter 12 - Referenced Standards

A106.2.3 Duct insulation. Ducts shall be insulated to R-8 or greater where located in unconditioned spaces and R- 11 minimum where located outside of the building structure. Where located within a building envelope assembly, the duct or plenum shall be separated from the building exterior or unconditioned or exempt spaces by R-8 insulation or greater.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 7.4.3.8 A106.2.4 Duct system testing. Duct systems shall be leak-tested in accordance with the SMACNA HVAC Air Duct Leakage Test Manual and shall have a rate of air leakage (CL) less than or equal to 4 as determined in accordance with Equation 4-5 of the International Energy Conservation Code. A106.2.4.1 Documentation. Documentation shall be furnished by the designer demonstrating that representative sections totaling not less than 50 percent of the duct area have been tested and that all tested sections meet the requirements of Section A106.2.4.

PROPOSED ACTION: Modify to incorporate a sliding scale to acknowledge additional percentage for duct tested.

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

A106.2.5 Service water heating equipment. The efficiency of the service water heating equipment shall be not less than 10 percent greater than the efficiencies shown in the International Energy Conservation Code and ASHRAE 90.1 or the service water heating equipment shall be ENERGY STAR qualified.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 7.4.4

A106.3 Service water heating project elective. Buildings seeking a service water heating project elective in accordance with Sections A102.2 and A106.3 shall comply with Sections A106.3.1 through A106.3.3.
A106.3.1 Prescriptive path. The building shall be designed prescriptively in accordance with Section 601.3.2.
A106.3.2 Occupancy. The building shall be designed to serve one of the following occupancies:

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Group A-2, restaurants and banquet halls;
Group F, laundries;
Group R-1, boarding houses (transient), hotels (transient), motels (transient);
Group R-2 buildings;
Group A-3, health clubs and spas; and
Group I-2, hospitals, mental hospitals and nursing homes.
A106.3.3 Service water heating efficiency. The efficiency of the service water heating equipment shall be at least 10 percent greater than the efficiencies shown in the International Energy Conservation Code and ASHRAE 90.1 or the service water heating equipment shall be ENERGY STAR qualified.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 7.4.4

A106.4 Lighting system efficiency project elective. Buildings seeking a lighting system efficiency project elective in accordance with Sections A102.2 and A106.4 shall comply with Sections A106.4.1 through A106.4.3. A106.4.1 Prescriptive path. The building shall be designed prescriptively in accordance with Section 602.3.1. A106.4.2 Interior lighting system efficiency. The interior connected lighting power shall be 10 percent less than the allowance determined in accordance with Section C405.5 of the International Energy Conservation Code. A106.4.3 Exterior lighting system efficiency. The exterior connected lighting power shall be 10 percent less than the allowance determined in accordance with Section C405.6 of the International Energy Conservation Code.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 7.4.6

A106.5 Passive design project elective. Buildings seeking a passive design project elective in accordance with Sections A102.2 and A106. 5 shall comply with Sections A106.5.1 and A106.5.2. A106.5.1 Performance path. The building shall be designed using the performance path in accordance with Section 601.3.1.
A106.5.2 Passive design provisions. The simulation of energy use performed pursuant to Section 602 shall document that not less than 40 percent of the annual energy use reduction realized by the proposed design has been achieved through passive heating, cooling, and ventilation design, as compared to the standard reference design. Passive heating and cooling shall use strategies including, but not limited to, building orientation, fenestration provisions, material selection, insulation choices, overhangs, shading

means, microclimate vegetation and water use, passive cooling towers, natural heat storage, natural ventilation, and thermal mass.

PROPOSED ACTION: Modify to incorporate a sliding scale starting at a lower threshold.

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

A106.6 Renewable energy system project electives. Buildings seeking a renewable energy system project elective or electives shall be equipped with one or more renewable energy systems in accordance with Section 610.1 that have the capacity to provide the percent of annual energy used within the building as selected in Table A106. Capacity shall be demonstrated in accordance with Section 610.1.1 or 610.1.2.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 7.1 SECTION A107 WATER RESOURCE CONSERVATION AND EFFICIENCY A107.1 Indoor water use. This section contains project electives related to indoor water use. A107.2 Onsite waste water treatment project elective. Where projects are intended to qualify for an onsite waste water treatment project elective in accordance with Section A107.2, all waste water from the building shall be treated to meet the quality requirements appropriate for its intended use and as required by law.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 6.4

A107.3 Alternate onsite nonpotable water for outdoor hose connections project elective. Where projects are intended to qualify for an alternate onsite nonpotable for out- door hose connections project elective in accordance with Section A107.3, sillcocks, hose bibs, wall hydrants, yard hydrants, and other outdoor outlets shall be supplied by non-potable water. Such outlets shall be located in a locked vault or shall be operable only by means of a removable key.
A107.3.1 Signage. Each outlet shall be provided with signage in accordance with Section 706.2. A107.4 Alternate onsite nonpotable water for plumbing

PROPOSED ACTION: Adopt as written

Chapter 12 - Referenced Standards

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: Chapter 6

A107.4 Alternate onsite nonpotable water for plumbing fixture flushing water project elective. Where projects are intended to qualify for an alternate onsite nonpotable water for plumbing fixture flushing project elective in accordance with Section A107.4, nonpotable water shall be used for flushing water closets and urinals.
A107.4.1 Water quality. Nonpotable water for water closet and urinal flushing shall meet minimum water quality requirements as established for indoor flushing applications by local codes and regulations. Where chlorine is used for disinfection, the nonpotable water shall contain not more than 4 mg/L of chloramines or free chlorine. Where ozone is used for disinfection, the nonpotable water shall not contain gas bubbles having elevated levels of ozone at the point of use.
A107.4.2 Filtration required. Nonpotable water utilized for water closet and urinal flushing applications shall be filtered by a 100 micron or finer filter.
A107.4.3 Signage. The entries to rooms having water closets or urinals that are supplied with nonpotable water shall be provided with signage in accordance with Section 706.2.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: Chapter 6

A107.5 Automatic fire sprinkler system project elective. Where projects are intended to qualify for an automatic fire sprinklers system project elective in accordance with Section A107.5, automatic fire sprinkler systems shall be supplied with nonpotable water from an onsite rainwater collection system. Such rainwater collection system shall comply with Section 707. The requirements of Sections A107.5.1 and A107.5.3 shall apply to the fire sprinkler system and the onsite rainwater collection system.
A107.5.1 Emergency power. An emergency power system complying with Chapter 27 of the International Building Code shall be provided for powering the pump and controls for the onsite rainwater collection system.
A107.5.2 Source volume indication. The fire command center for the building shall be equipped with a device that indicates the volume of nonpotable water contained in the collection reservoir. The indicator shall be approved and shall be in compliance with NFPA 72.
A107.5.3 Quality of water used for fire suppression. The required quality and treatment of the nonpotable water stored and used for fire suppression shall be determined by authority(s) having jurisdiction. A107.6 Alternate onsite nonpotable water to fire pumps.

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MCG DGS DBDC

Chapter 12 - Referenced Standards

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

A107.6 Alternate onsite nonpotable water to fire pumps project elective. Where projects are intended to qualify for an alternate onsite nonpotable water to fire pumps project elective in accordance with Sections A107.6, one or more fire pumps shall be located within 200 feet (60 960 mm) of a non- potable water collection system of sufficient quality, pressure, and capacity for fire pump applications and the fire pumps shall be connected to such source of nonpotable water. The connections shall be in accordance with Section 403.3.2 of the International Building Code. A107.6.1 Quality of water used for fire suppression. The required quality and treatment of the nonpotable water stored and used for fire suppression shall be determined by the authority having jurisdiction. A107.6.2 Signage. Fire pumps connected to a nonpotable water supply shall have signage in accordance with Section 706.2 provided at the building's fire command center and at each fire pump. A107.7 Alternate onsite nonpotable water for industrial

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

A107.7 Alternate onsite nonpotable water for industrial process makeup water project elective. Where projects are intended to qualify for an alternate onsite nonpotable water for industrial process makeup water project elective in accordance with Section A107.7, industrial processes requiring makeup water shall utilize nonpotable water except where the process requires potable water for proper functioning. A107.7.1 Signage. Rooms containing process equipment supplied with nonpotable water shall be provided with signage in accordance with Section 706.2.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

A107.8 Alternate onsite nonpotable water for cooling tower makeup water project elective. Where projects are intended to qualify for an alternate onsite nonpotable water for cooling tower makeup water project elective in accordance with Section A107.7, nonpotable water shall be utlized for cooling tower makeup water in accordance with the requirements of Section 706.3.

Chapter 12 - Referenced Standards

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

A107.9 Gray water collection project elective. Where projects are intended to qualify for a gray water collection project elective in accordance with Section A107.8, waste water from lavatories, showers, bathtubs, clothes washers, and laundry trays shall be collected for reuse onsite in accordance with Section 708.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

SECTION A108 INDOOR ENVIRONMENTAL QUALITY AND COMFORT
A108.1 VOC emissions project electives. Sections A108.2 through A108.5 shall be considered to be separate project electives. The electives shall be cumulative and compliance with each project elective shall be recognized individually.A108.2 Flooring material project elective. Where projects are intended to qualify for a "flooring material" project elective, all flooring installed within the interior of the building shall comply with Section 806.4 or shall be one or more of the following flooring materials that are deemed to comply with VOC emission limits:
1. Ceramic and concrete tile
2. Clay pavers
3. Concrete
4. Concrete pavers
5. Metal
6. Organic-free, mineral-based

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 8.4.2.3

A108.3 Ceiling materials project elective. Where projects are intended to qualify for a "ceiling materials" project elective, all ceiling systems shall comply with Section 806.5 or shall be one or more of the following ceiling systems that are deemed to comply with VOC emission limits:
1. Ceramic tile

Chapter 12 - Referenced Standards

2. Clay masonry
3. Concrete
4. Concrete masonry
5. Metal
6. Organic-free, mineral-based

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 8.4.2.6

A108.4 Wall materials project elective. Where projects are intended to qualify for a "wall materials" project elective, all wall systems shall comply with Section 806.5 or shall be one or more of the following wall systems that are deemed to comply with VOC emission limits: 1. Ceramic tile 2. Clay masonry 3. Concrete 4. Concrete masonry 5. Metal 6. Organic-free, mineral-based

ROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 8.4.2.6

A108.5 Total VOC limit project elective. Where projects are intended to qualify for a "total VOC limit" project elective in accordance with a minimum of 50 percent of all adhesives and sealants, architectural paints and coatings, flooring, acoustical ceiling tiles and wall systems and Insulation shall have a Total Volatile Organic Compounds (TVOCs) emission limit of ≤ 500 ug/m³. The test methodology used to determine compliance shall be from CDPH/EHLB/Standard Method V.1.1. The emissions testing shall be performed by a laboratory that has the CDPH/EHLB/Standard Method V.1.1 test methodology in the scope of its ISO 17025 Accreditation.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 8.4.2.1.2

A108.6 Views to building exterior project elective. Where projects are intended to qualify for a "views to building exterior" project elective in accordance with Section A108.6, not less than 50 percent of the net floor area shall have a direct line of sight to the exterior through clear vision glazing. A total of not less than 45 square feet (4.18 m 2 of clear vision glazing in the exterior wall or roof shall be visible. The direct line of sight shall

originate at a height of 42 inches (1067 mm) above the finished floor of the space, shall terminate at the clear vision glazing in the exterior wall or roof, and shall be less than 40 feet (12 192 mm) in length. Exception: Where the direct line of sight is less than 25 feet (7620 mm) in length, a total of not less than 18 square feet (1.67 m 2 of clear vision glazing in the exterior wall or roof shall be visible.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

PROPOSED ELECTIVES Indoor Environmental Air Quality – Proposed Elective

PROPOSED ACTION: Adopt the following project elective

RATIONALE / IMPACT: Good practice; language taken directly from ASHRAE 189.1

2011 ASHRAE 189.1 CORRELATION: 8.3.1.5

Building Entrances. All building entrances shall employ an entry mat system that shall have a scraper surface, an absorption surface, and a finishing surface. Each surface shall be a minimum of the width of the entry opening, and the minimum length is measured in the primary direction of travel.

Exceptions: 1. Entrances to individual dwelling units. 2. Length of entry mat surfaces is allowed to be reduced due to a barrier, such as a counter, partition, or wall, or local regulations prohibiting the use of scraper surfaces outside the entry. In this case entry mat surfaces shall have a minimum length of 3 ft (1 m) of indoor surface, with a minimum combined length of 6 ft (2 m).

Scraper Surface. The scraper surface shall comply with the following: a. Shall be the first surface stepped on when entering the building. b. Shall be either immediately outside or inside the entry. c. Shall be a minimum of 3 ft (1 m) long. d. Shall be either permanently mounted grates or removable mats with knobby or squeegee-like projections. Absorption Surface. The absorption surface shall comply with the following: a. Shall be the second surface stepped on when entering the building. b. Shall be a minimum of 3 ft (1 m) long, and made from materials that can perform both a scraping action and a moisture wicking action.

Finishing Surface. The finishing surface shall comply with the following: a. Shall be the third surface stepped on when entering the building. b. Shall be a minimum of 4 ft (1.2 m) long, and made from material that will both capture and hold any remaining particles or moisture.

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Chapter 12 - Referenced Standards

Innovation in Design – Proposed Elective

PROPOSED ACTION: Adopt the following project elective

RATIONALE / IMPACT: Promote sustainable strategies and resource conservation techniques not addressed elsewhere in the Code but worthy of consideration; language taken from LEED 2009 with minor modifications for this Code.

2011 ASHRAE 189.1 CORRELATION: None

Innovative Strategies: Innovative strategies are those that are not addressed by any other requirement of this Code. Only those strategies that demonstrate a comprehensive approach and have significant, measurable environmental benefits are applicable. Credit may be granted for strategies that demonstrate innovation in design or exemplary performance.

Department of Permitting Services, Work Session, July 16, 2014

Testimony by Ralph Bennett, William LeRoy
Potomac Valley Chapter, American Institute of Architects

Ralph Bennett
Member, AIA PV Task Force for review of the IgCC.

Thank you for this opportunity to speak.

• We hope that our recommendations and our participation in these proceedings have shown the commitment of the Potomac Valley Chapter of the AIA to the adoption of a comprehensive sustainability code for Montgomery County. We feel that the code, like sustainability itself must balance economy, environment and equity. Finding this balance will not be easy - we are committed to the success in this venture.

• We wish to thank the Department of General Services for their thoughtful and comprehensive review of the document as users of its requirements and objectives.

• We would note that very few of either DGS of AIA suggestions are incorporated in the DPS Draft (June 16, 2014 Proposed Amendments). We understand that the draft on which we have been invited to comment over the last weeks was an early draft, its brevity is an indication of how much DPS must draft into a legislative proposal. It also shows that Montgomery County may be among the few jurisdictions to adopt this code largely unamended.

* we would point out several important questions which must be addressed:

1. Will ASHRAE 189.1 be included as an alternative path as the Model Code prescribes?

2. Will DPS be providing separate Amendment recommendations for ASHRAE 189.1?

3. Which of the project electives will DPS include as required? The DPS draft includes no mention of Appendix A beyond several requirements which are proposed to be moved there. The model code requires the Jurisdiction Having Authority to designate which or how many Project requirements must be met by the applicant.

4. What version of LEED and Level of LEED does the County intend to meet with the IgCC? Version 2009 vs. V4, Certified, Silver, Gold, etc.?

• Transition period needed

1. ICC has not prepared infrastructure for credit interpretations (rumored others are doing this) - essential for DPS implementation.
2. LEED Silver should be retained as Alternate Compliance Path for at least a year.

- The DPS Draft has several typographical errors:

  Sec. 4, Sec. 101.3.1 Residential Construction: Currently reads: "Delete reference to R-3 in Item 1...." Did you mean to say: .....Delete reference to R-4?

  Sec. 5, Sec. 101.4, Appendices. Is DPS planning to indicate any requirements on the Tables listed?

  Sec. 6, Sec 102.4 Reference codes and standards: Did you mean to include or exclude the International Code Council Performance Code (ICCPC)?

  Sec. 12, Section 405.6(2) Documentation. Is there a typo? Should this be 405.1.6(2)?

Testimony by William Le Roy
Co-Chair of the AIA PV Task Force for review of the IgCC.

- The DPS recommendations delete Chapter 10 with the exception of a section mandating reduction of demolition waste. We find this to be a large opportunity missed. Existing buildings, with the exception of a small number of LEED rated recent buildings comprise the entire current building stock of the County. Many of these buildings will be renovated - the IgCC can bring these buildings to modern standards. We believe this should happen. We would like more information about why Chapter 11 (Existing Building Site Development) is being treated differently than Chapter 10?

- Ch 10 deletion does not attempt to address historic buildings. Both 10 and 11 as written do this, though not well, and should be retained to reduce potential regulatory conflicts/interpretations between DPS and MHT.

- Note that the definition of substantial improvement (which applies to Ch10+11) is defined by the DPS version as market based on the value of the property. This conflicts with the IEBCs levels of alteration so to avoid variability of applicability towards buildings due to property market shocks.
- With the current population density of 2000people/sq mi along with 155,000 businesses (wolfram alpha), existing buildings the most impact on GHG reductions. When EB undergo renovations, the code IgCC can and should apply. The DPS draft does not address building renovations. Appurtenances is currently insufficient to that is outlined for new and additions and should be revised.

- We ask, how will zEPI be applied to an addition since building construction separation is not the same as performance of the whole?

- Without retaining Ch10, and revising Sec 605 (the envelope requirements), impact on historic listed and eligible properties is a likely outcome that can neg. impact the character with projections, thermal insulation, moisture drying, and other important

character defining elements. In deleting Ch10, possible communication lapes between Preservation Office and local code officials still exist.

- Ch11, existing building sites is not proposed to be deleted, therefore this DPS draft appears to support razing and new construction and additions (but not renovation, adaptive reuse, restoration, or preservation). We ask is this intentional?

- The two chapters together address whole building issues related to existing buildings and properties. Thank you for your time.

Testimony Complete.

• Commissioning: sufficient personnel trained appropriately are not now available to perform the wide range of commissioning required. Again, a transition period is required.

- Chapter 1: Scope and Application:
  - Like DC's recently adopted IgCC, provide a Regional Approach that allows alternate compliance for ASHRAE 189.1, LEED and Enterprise Green Communities.
  - Provide square footage minimum GSF building size for when the code applies -- applied according to a combination of Building Type, Use and Occupancy, and Design Energy Use. It makes no sense to apply the same energy standard to a large occupancy use as a low occupancy use or a low energy use vs. a high energy use building type.
- Chapter 1 – Administration and Enforcement:
  - To avoid confusion with users of the code, we strongly recommend the County work with the ICC (as DC has done) to publish one comprehensive IgCC code, whereby a pdf and/or printed publication with amended language incorporated, without strikeouts, into one single resource. An approved legislative document will not meet the needs of the users.
  - To avoid confusion, where another regulatory agency takes precedence over a code item, refer to that agency and regulation number. For instance: WSSC, Zoning, other ICC codes....
  - Provide uniform checklists and submission forms for use with permit applications, so everyone is working from the same guideline.
- IgCC 2015: Final adoption processes are occurring this fall and many IgCC 2012 items are being revisited to improve and get-rid of loopholes; it is advisable to include reasonable 2015 improvements as amendments in this cycle. Alternatively, upcoming IgCC 2015 items that intend to raise the code minimum criteria should wait until that code is adopted locally in the future.
- Flexibility: The IgCC is based on the LEED system which gives Design Professionals the option to choose sustainability items that are compatible with the individual project. Since the IgCC code items are mandatory, other means of

providing choices for different project types in suburban vs. urban vs. rural settings would be appropriate.

- Learning Curve for Design Professionals: There is design professional expertise in the local area for delivering high-dollar, large-scale LEED certified buildings with the assistance of sustainability consultants. Those entities, including most on our task force, should not have trouble with the IgCC. However, the sustainability knowledge base is not in wide-spread use on a less-than-10,000 sf category of commercial buildings that the County hopes to capture. For those Design Professionals, Developers, Builders and Owners unfamiliar with the IgCC criteria, this overlay code may be a time-consuming and expensive challenge on a wide variety of building sizes and types. We hope those groups are commenting too.

- Electives: In order to address the above issues, the AIA-PV has recommended a number of items be moved to Appendix A, Electives. Further recommendations include, for new construction: 20% electives divided among four (4) chapter categories, and for existing buildings: 15% electives divided among two (2) chapter categories.

    - DPS Website materials: The AIA-PV provided two sets of detailed comments. If possible, we would appreciate that each is posted separately, one under the title IgCC, 7.30.13, and the other under the title ASHRAE 189.1, 2.4.14.